

**Redefined
San Francisco-San Jose Design-Build Section
ARRA Track 2 Scope**

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Introduction

In January 2010 the Federal Railroad Administration (FRA) notified the California High-Speed Rail Authority (Authority) that it had been selected to receive an American Recovery and Reinvestment Act of 2009 (ARRA) Track 2 grant award of up to \$2.25 billion (B) upon satisfaction of certain grant conditions and requirements. From that amount, \$400 million (M) has been allocated by USDOT to the Transbay Transit Center. Additionally, \$194 M of the ARRA funds are earmarked for the completion of the Preliminary Engineering/National Environmental Protection Act/California Environmental Quality Act (PE/NEPA/CEQA) activities for Phase 1 of the California High-Speed Train Project (CHSTP). Hence the remaining funds available for the final design and construction are \$1.656 B, and when matched with California Proposition 1A Bond funds is up to \$3.312 billion. Four design/build (D/B) program sections, including the San Francisco-San Jose Section discussed here, were proposed by the Authority for ARRA Track 2 funding in October 2009, and all four are still considered eligible. Presumably, one of these four eligible sections will ultimately be funded, but which one is not currently known

In applying for funding under the FY10 Service Development Programs (SDP) solicitation, the Authority has decided to re-assess the original ARRA Track 2 grant scope, identify needed refinements to optimize use of the \$3.312B available funding (while meeting the FRA's "independent utility" criteria), and develop potential additional scope for this year's round of HSIPR funding, which would complement or enhance the ARRA Track 2 section scope and help advance the CHSTP. However, since no decision has yet been made as to which of the four ARRA-eligible projects would ultimately be funded, the Authority has redefined the scope of each of these four project sections, which are included in the four new grant application submittals.

Due to funding constraints only one ARRA-eligible project/section potentially augmented by its associated FY10 SDP grant scope will ultimately be funded. While the FRA would prefer the Authority to prioritize the sections, this is not currently possible, so four new grant requests are being submitted to complement and enhance the four ARRA-eligible project sections. The Authority proposes to combine any FY10 HSIPR Service Development Program funding awarded under the current solicitation with the available ARRA Track 2 funding to construct an enhanced project section of the CHSTP.

The ARRA-eligible scope in each project section needs to be clearly defined since one of the conditions of the current solicitation is that projects that have received HSIPR program funding under previous solicitations (e.g., ARRA Track 2 grants) are not eligible for new funding (i.e., the identical projects cannot be re-submitted). Therefore, as part of preparing new grant requests, the Authority has redefined the four ARRA-eligible project sections.

Projects funded with ARRA Track 2 funds must retain "operational independence" as defined in Sec. 3.5.2 of the Notice of Funding Availability (NOFA), without considering any new funds. As the Authority was awarded only approximately 50% of its original ARRA application value, the FRA requires clarity on how this funding would be applied in case of award, to meet the "operational independence" criteria. Therefore, the Authority has redefined or refined the scope of each of these projects, described how operational independence would be achieved, and identified the measurable benefits of each.

The refined ARRA-eligible project sections remain subject to the schedule constraints (NOD/ROD by Sept 2011). It is understood that while the FY10 HSIPR applications for the enhancements of the ARRA corridors are not subject to the ARRA timelines, the use of these funds is contingent on the completion of the NOD/ROD for the ARRA sections to be on schedule.

Following is a redefinition of the scope of the San Francisco-San Jose ARRA D/B Program Section.

A. Original San Francisco-San Jose ARRA D/B Grant Scope (see Figure 1):

- The Authority applied for \$1.960B for electrification (\$741M), communication & signaling -PTC (\$213M), stations (\$392M), grade separations \$327M) and associated professional services and contingency.
- It is unclear whether Caltrain service would meet FRA's operational independence requirement; according to the FRA, the proposed infrastructural improvements do not meet their funding criteria to ensure "a minimal operating segment of new or substantially improved high-speed or intercity passenger rail service".

B. Refinements and re-scoping of the San Francisco-San Jose ARRA D/B Section

- The total available ARRA D/B funding (\$3.312B) will not suffice to build this complete segment. Program developments have further increased the costs of certain alternatives which remain applicable.
- The refined scope discussed below focuses on infrastructure improvements and grade-separation work starting at the 4th & King Station working south, including work elements having near-term operational benefits to existing rail passenger train service on the Peninsula and meeting the long-term needs of the CHST Program (using a "building block" approach).
- New infrastructure providing four tracks between Brisbane and Redwood Junction is proposed based on the more economical Aerial Structure cross-section as opposed to the Trench solution in some areas such as Burlingame, San Mateo, which would be more expensive.*¹ (see Figure 2)
- Existing two tracks will be shared in sections south of Redwood Junction to Mountain View.
- New infrastructure providing four tracks from Mountain View to north of Fair Oaks Avenue, Santa Clara, is proposed based on the more economical Aerial Structure cross-section (as opposed to the Trench solution in some areas such as Mountain View and Sunnyvale) leading into the existing four-track Caltrain system and into Diridon Station (see Figure 2).
- New PTC (possibly CBOSS or ERTMS) is included to enhance safety and to allow for the vast amount of traffic diversions which will be required during construction, and the 2015 installation deadline.
- Project must meet FRA's operational independence criteria.

A vision for the Caltrain/HST Shared-Use Corridor and a more detailed description of the proposed infrastructure improvements that could be built for the total available ARRA D/B funding of \$3.312 B is provided below.

Note: The attached budget form shows a revised total of \$3,311,346,000 for this section. The intent is to apply the full amount of available ARRA Track 2 grant funding (\$3.312 B) to whichever ARRA-eligible section is funded. The difference between the attached revised estimate and the total available budget would be retained as additional Unallocated Contingency.

¹ If the trench solution is selected then less infrastructure could be implemented.

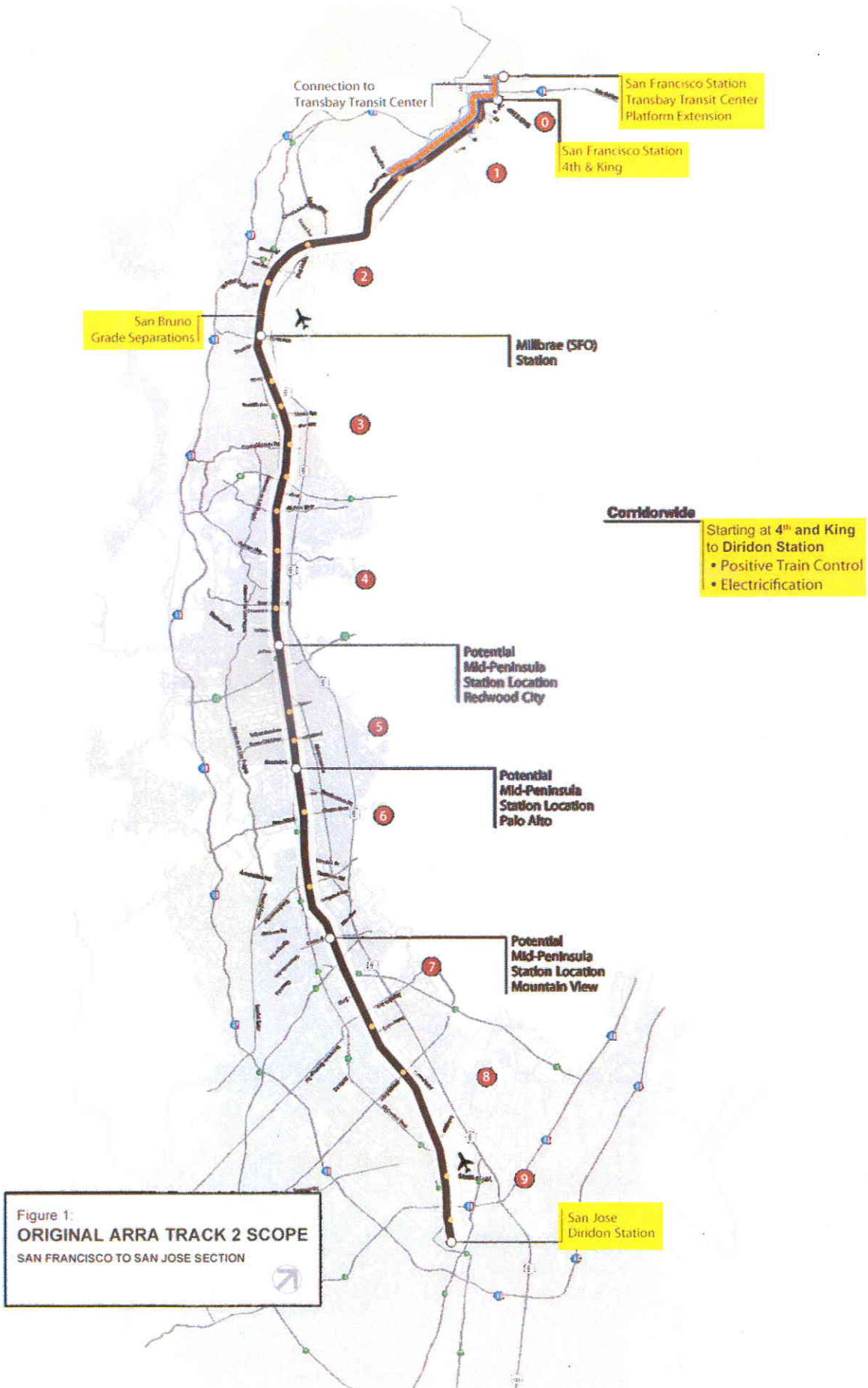
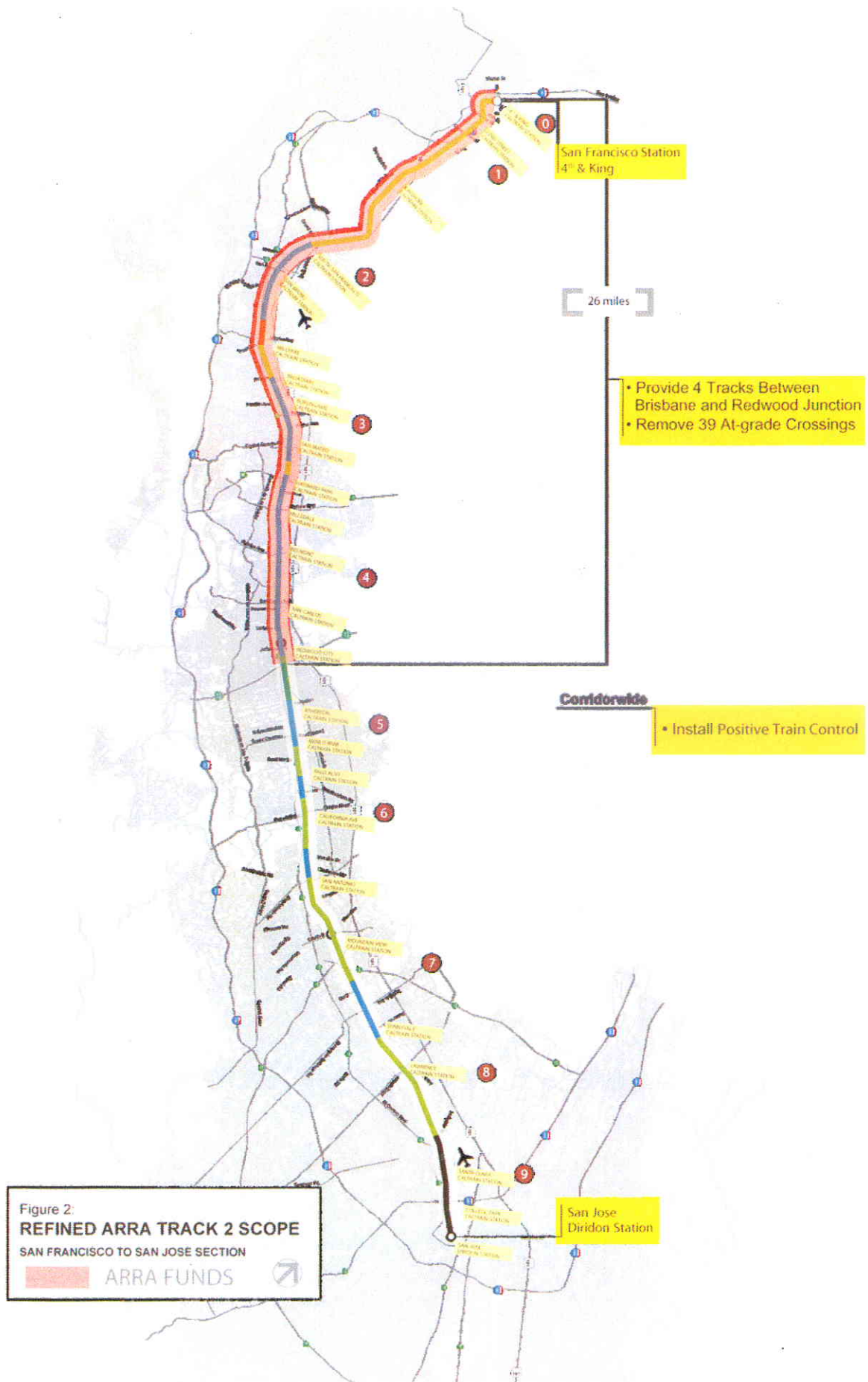


Figure 1:
ORIGINAL ARRA TRACK 2 SCOPE
SAN FRANCISCO TO SAN JOSE SECTION



Vision for the Caltrain/HST Shared Use Corridor

The Caltrain corridor will be a 49-mile long predominantly four-track shared-use section of the California High Speed Train System, operating high-speed intercity service between San Francisco and San Jose.

From San Francisco to CP Coast (just north of Caltrain's Santa Clara station), the HST will share tracks with Caltrain, who operates regional passenger rail service, and Union Pacific, who operates local freight service. Union Pacific's freight operation will be temporally separated (midnight to five AM) between the Port of San Francisco and San Jose to accommodate continuation of freight rail services to shipping customers along the corridor. From CP Coast to San Jose Diridon Station, the southernmost segment of this section, HST will be on dedicated tracks (Subsections 8 and 9).

From CP Coast to San Jose Diridon Station, other rail operators will continue to share tracks that are separate from the HST tracks. These operators include Amtrak's Capitol Corridor and Coast Starlight intercity services, ACE (Altamont Commuter Express) commuter rail services, and Union Pacific who operates local freight service. ACE, operated by the San Joaquin Regional Rail Commission (SJRRRC), provides service between Stockton and San Jose with 6 daily trains. Capitol Corridor service is operated by Amtrak under the management of the Capitol Corridor Joint Powers Authority (CCJPA) currently provides 7 daily round trips between Sacramento and San Jose and 16 daily round trips between Oakland and Sacramento.

It is anticipated that by the time of HST operation in 2020, electrification of the Caltrain corridor will have been completed and all Caltrain rolling stock fleet is replaced with EMU train sets equipped with advanced Crash Energy Management (CEM) capabilities. Caltrain will dramatically increase its service from 90 daily one-way trains between San Jose and San Francisco today to 162 daily one-way trains by 2025.

There are three basic phases to the completion of the Caltrain/HST Shared Use Corridor:

1A: *Rebuilding North end of Caltrain Corridor and Positive Train Control:* capacity improvements and removal of 39 at-grade crossings and Positive Train Control for a smoother, safer Caltrain. (\$3.312 Billion)

1B: *Rebuilding South end of Caltrain Corridor and Electrification:* capacity improvements and removal of 4 at-grade crossings between Adobe Creek and North Fair Oaks Boulevard in Sunnyvale. This would enable initiation of electrified Caltrain service and HST on the Peninsula and a Millbrae HST station. (\$1.43 B)

2: *Completion of the line:* capacity improvements and removal of last 5 at-grade crossings on the line in the mid-Peninsula, connections to Transbay Transit Center, construction of the San Jose Diridon HST station, and connection to the statewide HST system. *This phase is not described in detail here as it is not part of the application.*

Phase 1A: *Rebuilding Caltrain (\$3.312 billion of ARRA, Prop. 1A, and other state and local funding)*

- Phase 1A would grade-separate much of the northern half of the corridor.
- Positive Train Control would be installed under Phase 1A which would provide a safer and more efficient railroad to the Peninsula. Its installation would also comply with mandated FRA deadlines to have PTC operating by 2015.

The scope includes the following improvements:

4th and King to Bayshore

- Subsections: 1A to 1G / Caltrain Mileposts: (MP 0.0 to MP 5)
- Track Design Speed: 10-79 mph

- Environmental Clearance Status: Pending approval as part of EIR/EIS
- Description: The 4th and King station would be reconfigured to accommodate the high speed train service and its equipment on two of its platforms. The existing Caltrain tunnels will be electrified to accommodate both Caltrain and HST service. Common and 16th Streets in San Francisco would be grade-separated as part of this phase of the project.

Bayshore to Millbrae

- Subsections: 2A to 2D / Caltrain Mileposts: (MP 5 to MP 14)
- Track Design Speed: 90-125 mph
- Environmental Clearance Status: Pending approval as part of EIR/EIS. The San Bruno Grade Separation Project is approved under CEQA and NEPA.
- Description: Immediately following the southern portal of tunnel four the existing Caltrain tracks expand from two to four tracks for two miles. This project will continue the four tracks system through South San Francisco and grade separate Linden and Scott Avenues. In the vicinity of Milepost 11, the new four track system will tie in with the planned and environmentally cleared San Bruno Grade separation project, which will be expanded from the two tracks that Caltrain will start construction on in 2011 to four tracks as part of this project. This project has been environmentally cleared under CEQA and NEPA for the four track alignment. From Milepost 12, just past the existing San Bruno Station, to Millbrae this project will continue to expand the two track system to four tracks, up to the Millbrae station where under phase 1A, an additional track will be added to the Millbrae station to the west side of the existing platforms and one track in a cut and cover tunnel, creating a four track system through the station. HST station platforms will be added to the Millbrae station under phase 1B to coincide with the initiation of electrified service on the corridor.

Millbrae, Burlingame and San Mateo

- Subsections: 3A to 3E/ Caltrain Mileposts: (MP 14 to MP 19)
- Track Design Speed: 125 mph
- Environmental Clearance Status: Pending approval as part of EIR/EIS
- Description: Between Millbrae and the southern end of Downtown San Mateo the Caltrain and HST system would be a four-track system, above grade, on an aerial structure. This section of the line would grade separate 16 existing at-grade crossings (a third of the 46 total crossings on the corridor) within approximately five miles of the 50 mile Caltrain corridor. The Caltrain stations in this section (Broadway, Burlingame and San Mateo) would be rebuilt with platforms on the outside two tracks.

South San Mateo, Belmont, San Carlos and Redwood City

- Subsections: 4A to 5A/ Caltrain Mileposts: (MP 19 to MP 27)
- Track Design Speed: 125 mph
- Environmental Clearance Status: Pending approval as part of EIR/EIS
- Description: The HST system would transition from an elevated structure to at-grade at Hayward Park and then would transition up on to a berm to the planned location of the new Hillsdale Caltrain station to serve the new residential development at Bay Meadows. The berm through San Mateo would transition to an elevated, four-track structure through Belmont and San Carlos where the existing two track berm would be replaced with an elevated structure. Redwood City would have an elevated structure through its downtown. The elevated structure would transition to an at-

grade configuration in order to interface with the existing Redwood Junction and the Port of Redwood City spur. It also would tie in with the existing one mile, four-track section through Redwood Junction. The Caltrain stations in these sections (Hayward Park, Belmont, San Carlos and Redwood City) would be rebuilt with platforms on the outside two tracks.

C. San Francisco-San Jose FY10 SDP Grant Application Scope

To help differentiate between what the initial ARRA scope and the new grant application covers, a brief description of the new grant application scope follows:

Phase 1B:\$1.43 B of FY10 SDP Grant, Prop. 1A, and other state and local funding Refer to Figure 3

- Grade-separate the southern portion of the line between Mountain View and Sunnyvale and expand the railroad from two to four tracks.
- Electrify the Caltrain system from San Francisco to San Jose
- Construct an HST station at Millbrae to facilitate intermodal connections to Caltrain, Samtrans, BART and San Francisco International Airport.

Mountain View / Sunnyvale

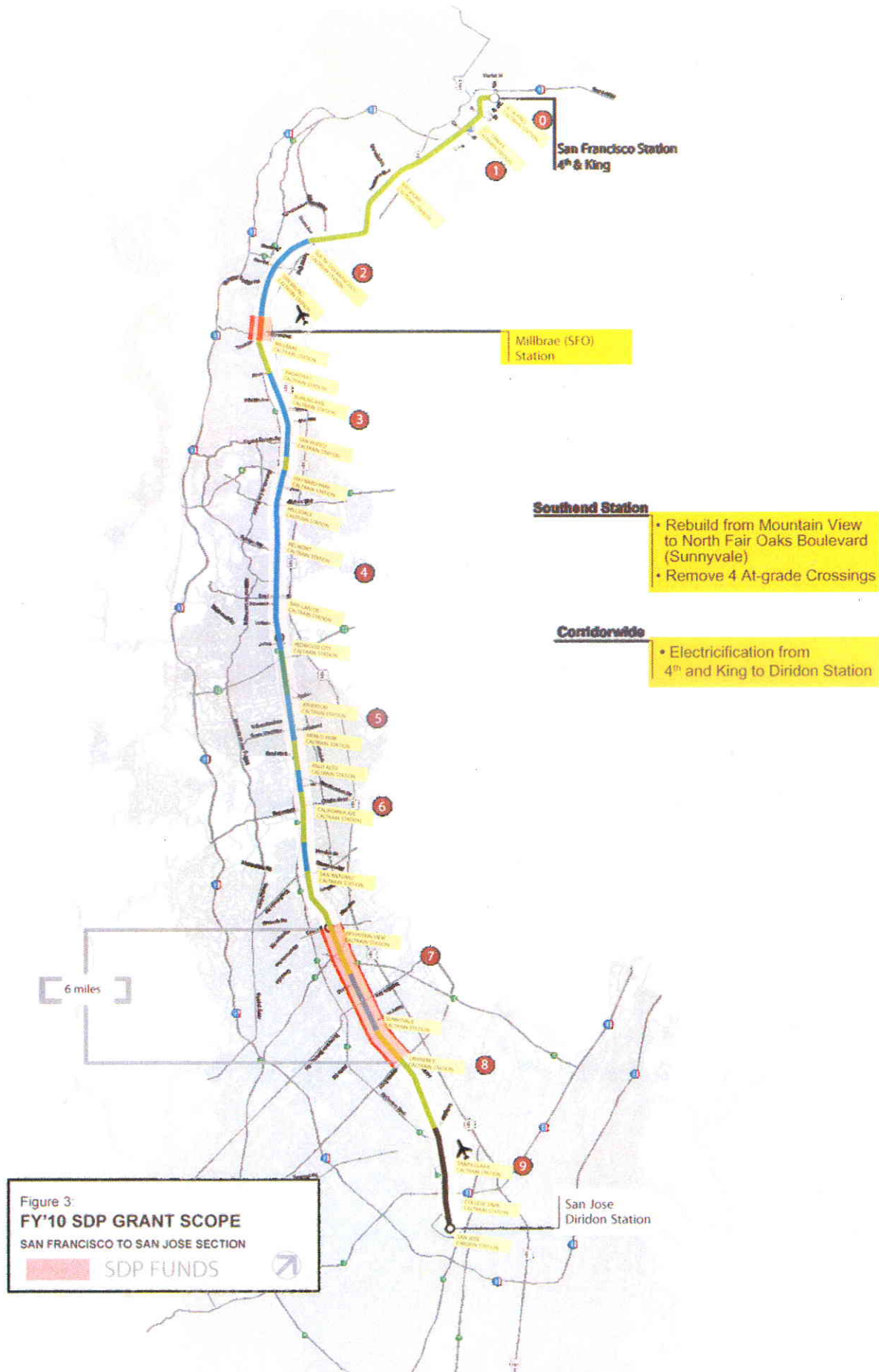
- Subsections: 7A to 7D / Caltrain Mileposts: (MP 33.5 to 39.4)
- Track Design Speed: 125 mph
- Environmental Clearance Status: Pending approval as part of EIR/EIS
- Description: Between Adobe Creek and North Fair Oaks Ave in Sunnyvale (MP 33.5 to MP 39.4) the project would grade separate N Rengstorff Ave, Castro Street, Mary Avenue and Sunnyvale Avenue and expand the current two-track system to four tracks (most of the existing two-track system would need to be moved to accommodate the four-track configuration. At North Fair Oaks Ave. the new four track section would tie in with the existing Caltrain four tracks, which run from North Fair Oaks (MP 39.5) to the Sunnyvale/Santa Clara border (MP 41.5). The Caltrain stations in these sections (San Antonio, Mountain View and Sunnyvale) would be rebuilt with platforms on the outside two tracks.

System Electrification

- Subsections: 0 to 9B / Caltrain Mileposts: (MP 0 to 48)
- Track Design Speed: 125 mph
- Environmental Clearance Status: Electrification of Caltrain line, cleared under CEQA and NEPA.
- Description: Caltrain has long planned to electrify the line from San Francisco to San Jose. In 2010, the Caltrain Board will certify the environmental document allowing initial work to begin on the electrification of the corridor. The corridor will be electrified for the entire line, including the two-track, at-grade sections through Atherton, Menlo Park and Palo Alto.

HST Station at Millbrae

- Subsections: 2D / Caltrain Mileposts: (MP 13.6)
- Track Design Speed: 125 mph
- Environmental Clearance Status: Pending approval as part of EIR/EIS
- Description: With the electrification of the line, making the HST service on the Peninsula possible, the construction of the station at Millbrae would allow for intermodal connections with Caltrain, BART, Samtrans and San Francisco International Airport. This station would realize one of the HST systems primary goals of connecting with the state's airports.



Service Development Program Budget and Schedule Form



Welcome to the Service Development Program Budget and Schedule Form. To begin, save this Excel workbook to your computer and open the file. The buttons below will help you to easily navigate the forms contained in this file. To get started click on the button labeled "1. General Info."

Note 1: Yellow cells require you to enter values and blue cells are set up to auto-populate based on formulas that are embedded in the forms. If you have questions about this form or the formulas and calculations contained herein, please email the HSIPR Program Manager at HSIPR@dot.gov.

Note 2: For purposes of this application, "Fiscal Year (FY)" refers to the Federal fiscal year (October 1- September 30).

Color Key for Completing this Form:

Cell Type/Color:	Applicant Should Input a Value	Template will Auto Populate (see note 1 above)	FRA Use Only: Applicant Does Not Complete
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General Info (click here first)

Capital Cost Info. (Standard Cost Categories for reference)

Detailed Capital Cost Budget

Annual Capital Cost Budget

Instructions for Operating & Financial Sheets

Operating & Maintenance Info

Operating & Financial Performance

Sustainability Sheet

Analysis of Funding Sources for Sustainability

Program Schedule

General Information

Below, please indicate the Service Development Program name. The Service Development Program name must be identical to the name listed in the Application Form. Limited to 50 characters, the name must consist of the following elements, each separated by a hyphen: (1) the State abbreviation of the State submitting this application; (2) the route or corridor name that is the subject of the related Corridor Service Overview; and (3) a descriptor that will concisely identify the Corridor Program's focus (e.g., HI-Fast Corridor-Main Stem)

1. Please enter the requested data into the yellow cells.
This information will auto-populate other areas of the form.

Service Development Program Name
(same as on Application Form)

CA-SF/SANJOSEHSR-DESIGN/BUILD

Application Assumptions

1. Please use this section to capture two separate sets of assumptions that will enter the costs shown in subsequent sheets. The contingency rate is the allowance for uncertainties in projected costs. The Annual Inflation Rate will be used to convert between 2011 constant dollars and Year of Expenditure dollars. Enter the assumed annual inflation rate for each category for each year, with the exception of 2010 and 2011. Inflation rates for 2010 and 2011 are not used in Year of Expenditure calculations in other sections of this form.

Cost Categories*	Contingency Rate Assumption (%)	Annual Inflation Rate Assumptions by Year (%)									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Categories for Detailed Capital Cost Budget											
10 Track Structures and Track	15.0%			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
20 Stations, Terminals, Intermodal	25.0%			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
30 Support Facilities: Yards, Shops, Admin. Bldgs	25.0%			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
40 Sitework, Right of Way, Land, Existing Improvements & Special Conditions	15.0%			2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
50 Communications & Signaling	15.0%			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
60 Electric Traction	15.0%			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
70 Vehicles	0.0%										
80 Professional Services (applies to Cats. 10-60)	0.0%			2.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
90 Unallocated Contingency	n/a			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
100 Finance Charges	n/a										
Category for Operating, Financial, and Sustainability information		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019**
Operating, Financial, Sustainability Information-- All-Purpose Inflation Rates		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

* See "Capital Cost Info." for definitions and explanations of the Standard Capital Cost (SCC) Categories.

** For 2019 Operating, Financial, and Sustainability Inflation Assumptions, enter a single annual inflation rate for 2019 that will be used for 2019 and all subsequent years.

If not using the FRA formulas, please describe your methodology in the space provided below as well as listing any supporting documentation.

Detailed Capital Cost Budget

Instructions:

To assist FRA in comparing projects, this form provides a breakdown of capital cost using Standard Cost Categories (SCCs). Definitions of FRA's SCCs can be found in the "Capital Cost Info" tab of this workbook. The data you enter in this form should be drawn from budget estimates or analysis you have available for your project.

1. Enter values in the yellow cells below. You should only provide data for those costs categories associated with this project; leave others blank.

2. The light blue cells will auto-populate based on the Contingency rates entered in "General Info."

3. Explain any large discrete, identifiable and/or unique capital investments in the space provided at the bottom of this form. Where an explanation is appropriate, place an asterisk in the far right column to denote that an explanation is provided. Please include the reference to the Cost Category number in your explanation. Example: "10.07: Tunnel at xxxx [location], x.x miles in length, consists of one twin-tube New Austrian Tunneling Method tunnel with cross-passages located every .25 miles."

4. For purposes of this application "Base Year Dollars" are Fiscal Year (FY) 2011 Dollars.

Program Name: CA-SF/SANJOSEHSR-DESIGN/BUILD

		Applicant Inputs				Total Allocated Cost (Thousands of Base Yr FY11 Dollars)	Allocated Contingency (Thousands of Base Yr/FY 11 Dollars)	TOTAL COST (Thousands of Base Yr/FY 11 Dollars)	Explanation Provided? (If so use *)
	Unit	Quantity	Unit Cost (Thousands of Base Yr/FY 11 Dollars)	Non-Unit Based Costs					
10 TRACK STRUCTURES & TRACK									
10.01	Track structure: Viaduct	Miles	10.94	\$ 91,131		\$ 1,524,332	\$ 228,650	\$ 1,752,982	
10.02	Track structure: Major/Movable bridge					\$ 996,974	\$ 149,546	\$ 1,146,520	
10.03	Track structure: Undergrade Bridges					\$ -	\$ -	\$ -	
10.04	Track structure: Culverts and drainage structures	#				\$ -	\$ -	\$ -	
10.05	Track structure: Cut and Fill (> 4' height/depth)	Miles				\$ -	\$ -	\$ -	
10.06	Track structure: At-grade (grading and subgrade stabilization)	Miles	34.85	\$ 1,281		\$ 44,643	\$ 6,696	\$ 51,339	
10.07	Track structure: Tunnel				\$ 330,375	\$ 330,375	\$ 49,556	\$ 379,931	
10.08	Track structure: Retaining walls and systems	Miles				\$ -	\$ -	\$ -	
10.09	Track new construction: Conventional ballasted				\$ 115,489	\$ 115,489	\$ 17,323	\$ 132,813	
10.10	Track new construction: Non-ballasted					\$ -	\$ -	\$ -	
10.11	Track rehabilitation: Ballast and surfacing					\$ -	\$ -	\$ -	
10.12	Track rehabilitation: Ditching and drainage					\$ -	\$ -	\$ -	
10.13	Track rehabilitation: Component replacement (rail, ties, etc)					\$ -	\$ -	\$ -	
10.14	Track: Special track work (switches, turnouts, insulated joints)				\$ 12,668	\$ 12,668	\$ 1,900	\$ 14,568	
10.15	Track: Major interlockings					\$ -	\$ -	\$ -	
10.16	Track: Switch heaters (with power and control)					\$ -	\$ -	\$ -	
10.17	Track: Vibration and noise dampening					\$ -	\$ -	\$ -	
10.18	Other linear structures including fencing, sound walls	Miles	20.00	\$ 1,209		\$ 24,182	\$ 3,627	\$ 27,810	
20 STATIONS, TERMINALS, INTERMODAL									
20.01	Station buildings: Intercity passenger rail only				\$ 122,629	\$ 122,629	\$ 30,657	\$ 153,286	
20.02	Station buildings: Joint use (commuter rail, intercity bus)				\$ 135,000	\$ 135,000	\$ 33,750	\$ 168,750	
20.03	Platforms					\$ -	\$ -	\$ -	
20.04	Elevators, escalators					\$ -	\$ -	\$ -	
20.05	Joint commercial development					\$ -	\$ -	\$ -	
20.06	Pedestrian / bike access and accommodation, landscaping, parking lots					\$ -	\$ -	\$ -	
20.07	Automobile, bus, van accessways including roads					\$ -	\$ -	\$ -	
20.08	Fare collection systems and equipment					\$ -	\$ -	\$ -	
20.09	Station security					\$ -	\$ -	\$ -	
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS									
30.01	Administration building: Office, sales, storage, revenue counting					\$ -	\$ -	\$ -	
30.02	Light maintenance facility					\$ -	\$ -	\$ -	
30.03	Heavy maintenance facility					\$ -	\$ -	\$ -	
30.04	Storage or maintenance-of-way building/bases					\$ -	\$ -	\$ -	
30.05	Yard and yard-track					\$ -	\$ -	\$ -	
40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS									
40.01	Demolition, clearing, site preparation					\$ 194,950	\$ 29,242	\$ 224,192	
40.02	Site utilities, utility relocation				\$ 26,516	\$ 26,516	\$ 3,977	\$ 30,493	
40.03	Hazardous material, contaminated soil removal/mitigation, ground water treatments					\$ -	\$ -	\$ -	
40.04	Environmental mitigation: wetlands, historic/archeology, parks				\$ 8,542	\$ 8,542	\$ 1,281	\$ 9,823	
40.05	Site structures including retaining walls, sound walls					\$ -	\$ -	\$ -	
40.06	Temporary facilities and other indirect costs during construction					\$ -	\$ -	\$ -	
40.07	Purchase or lease of real estate				\$ 55,726	\$ 55,726	\$ 8,359	\$ 64,085	
40.08	Highway/pedestrian overpass/grade separations				\$ 104,166	\$ 104,166	\$ 15,625	\$ 119,790	
40.09	Relocation of existing households and businesses					\$ -	\$ -	\$ -	

	Unit	Quantity	Unit Cost (Thousands of Base Yr/FY 11 Dollars)	Non-Unit Based Costs	Total Allocated Cost (Thousands of Base Yr/FY 11 Dollars)	Allocated Contingency (Thousands of Base Yr/FY 11 Dollars)	TOTAL COST (Thousands of Base Yr/FY 11 Dollars)	Explanation Provided? (If so use *)
50 COMMUNICATIONS & SIGNALING					\$ 172,455	\$ 25,868	\$ 198,323	
50.01 Wayside signaling equipment					\$ -	\$ -	\$ -	
50.02 Signal power access and distribution					\$ -	\$ -	\$ -	
50.03 On-board signaling equipment					\$ -	\$ -	\$ -	
50.04 Traffic control and dispatching systems				\$ 172,455	\$ 172,455	\$ 25,868	\$ 198,323	
50.05 Communications					\$ -	\$ -	\$ -	
50.06 Grade crossing protection					\$ -	\$ -	\$ -	
50.07 Hazard detectors (dragging equipment, slide, etc.)					\$ -	\$ -	\$ -	
50.08 Station train approach warning system					\$ -	\$ -	\$ -	
60 ELECTRIC TRACTION					\$ -	\$ -	\$ -	
60.01 Traction power transmission: High voltage					\$ -	\$ -	\$ -	
60.02 Traction power supply: Substations	#				\$ -	\$ -	\$ -	
60.03 Traction power distribution: Catenary and third rail	#				\$ -	\$ -	\$ -	
60.04 Traction power control					\$ -	\$ -	\$ -	
Construction Subtotal (10-60)					\$ 2,149,365	\$ 348,168	\$ 2,497,533	
70 VEHICLES					\$ -	\$ -	\$ -	
70.00 Vehicle acquisition: Electric locomotive	#				\$ -	\$ -	\$ -	
70.01 Vehicle acquisition: Non-electric locomotive	#				\$ -	\$ -	\$ -	
70.02 Vehicle acquisition: Electric multiple unit	#				\$ -	\$ -	\$ -	
70.03 Vehicle acquisition: Diesel multiple unit	#				\$ -	\$ -	\$ -	
70.04 Veh acq: Loco-hauled passenger cars w/ ticketed space	#				\$ -	\$ -	\$ -	
70.05 Veh acq: Loco-hauled passenger cars w/o ticketed space	#				\$ -	\$ -	\$ -	
70.06 Vehicle acquisition: Maintenance of way vehicles	#				\$ -	\$ -	\$ -	
70.07 Vehicle acquisition: Non-railroad support vehicles	#				\$ -	\$ -	\$ -	
70.08 Vehicle refurbishment: Electric locomotive	#				\$ -	\$ -	\$ -	
70.09 Vehicle refurbishment: Non-electric locomotive	#				\$ -	\$ -	\$ -	
70.10 Vehicle refurbishment: Electric multiple unit	#				\$ -	\$ -	\$ -	
70.11 Vehicle refurbishment: Diesel multiple unit	#				\$ -	\$ -	\$ -	
70.12 Veh refurb: Passeng. loco-hauled car w/ ticketed space	#				\$ -	\$ -	\$ -	
70.13 Veh refurb: Non-passeng loco-hauled car w/o ticketed space	#				\$ -	\$ -	\$ -	
70.14 Vehicle refurbishment: Maintenance of way vehicles	#				\$ -	\$ -	\$ -	
70.15 Spare parts					\$ -	\$ -	\$ -	
80 PROFESSIONAL SERVICES					\$ 283,449	\$ -	\$ 283,449	
80.01 Service Development Plan/Service Environmental					\$ -	\$ -	\$ -	
80.02 Preliminary Engineering/Project Environmental					\$ -	\$ -	\$ -	
80.03 Final Design				\$ 125,980	\$ 125,980	\$ -	\$ 125,980	
80.04 Project management for design and construction				\$ 73,488	\$ 73,488	\$ -	\$ 73,488	
80.05 Construction administration & management				\$ 83,982	\$ 83,982	\$ -	\$ 83,982	
80.06 Professional liability and other non-construction insurance					\$ -	\$ -	\$ -	
80.07 Legal; Permits; Review Fees by other agencies, cities, etc.					\$ -	\$ -	\$ -	
80.08 Surveys, testing, investigation					\$ -	\$ -	\$ -	
80.09 Engineering inspection					\$ -	\$ -	\$ -	
80.10 Start up					\$ -	\$ -	\$ -	
Subtotal (10-80)					\$ 2,432,814	\$ 348,168	\$ 2,780,982	
90 UNALLOCATED CONTINGENCY							\$ 213,500	
Subtotal (10-90)							\$ 2,994,482	
100 FINANCE CHARGES								
TOTAL CAPITAL COSTS (10-100)							\$ 2,994,482	

Space provided for additional descriptions of capital costs.
See Example under "Instructions" above. Please include references to specific Cost Category numbers.

Annual Capital Cost Budget

Instructions:

This form provides a breakdown by year of the capital costs entered in the previous "Detailed Capital Cost Budget". The data you enter in this form should be drawn from budget estimates or analysis you have available for your project.

1. In the yellow cells in the "Base Year/ FY 2011 Dollars" table, enter the annual dollar figures for each cost category in thousands of Base Year/ FY 2011 Dollars. If you have allowable 2010 expenditures, record those in the 2011 cost category fields.

2. In the "Base Year/ FY 2011 Dollars" table, the numbers in the "Double Check Total" column will auto-populate from the "Detailed Capital Cost Budget" in the previous tab. The numbers in the "Base Year/ FY 11 Total" column will be the sum of the annual data entered to the left. The two columns should match for each Standard Cost Category. If the entries in the "Double Check Total" column are not identical, the Base Year/ FY 11 values you entered in the previous tab do not match the values entered in this tab.

3. The light blue cells in the Year of Expenditure (YOE) table will auto-populate using inflation rates from the "General Info" tab.

Program Name: CA-SF/SANJOSEHSR-DESIGN/BUILD											
BASE YEAR/ FY 2011 DOLLARS (Thousands)											
	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total in Base Yr FY11 Dollars*	Check Figures Taken from Detailed Budget
10 TRACK STRUCTURES & TRACK	\$ -	\$ 175,298	\$ 350,596	\$ 613,545	\$ 350,596	\$ 175,298	\$ 87,649			\$ 1,752,982	\$ 1,752,982
20 STATIONS, TERMINALS, INTERMODAL				\$ 48,305	\$ 112,713	\$ 128,814	\$ 32,204			\$ 322,036	\$ 322,036
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN, BLDGS										\$ -	\$ -
40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS		\$ 89,675	\$ 125,308	\$ 11,209						\$ 224,192	\$ 224,192
50 COMMUNICATIONS & SIGNALING					\$ 49,581	\$ 79,329	\$ 69,413			\$ 198,323	\$ 198,323
60 ELECTRIC TRACTION										\$ -	\$ -
70 VEHICLES										\$ -	\$ -
80 PROFESSIONAL SERVICES (applies to Cmts. 10-60)		\$ 28,345	\$ 42,513	\$ 56,691	\$ 70,864	\$ 51,022	\$ 28,345	\$ 5,669		\$ 283,450	\$ 283,449
90 UNALLOCATED CONTINGENCY		\$ 20,000	\$ 44,000	\$ 55,000	\$ 52,500	\$ 42,000				\$ 213,500	\$ 213,500
100 FINANCE CHARGES										\$ -	\$ -
Total Program Cost (10-100)	\$ -	\$ 313,319	\$ 560,417	\$ 784,751	\$ 636,253	\$ 476,464	\$ 217,611	\$ 5,669	\$ -	\$ 2,994,483	\$ 2,994,482

YEAR OF EXPENDITURE (YOE) DOLLARS											
	2011	2012	2013	2014	2015	2016	2017	2018	2019	YOE Total**	
10 TRACK STRUCTURES & TRACK	\$ -	\$ 179,680	\$ 370,142	\$ 670,422	\$ 396,505	\$ 205,191	\$ 106,187	\$ -	\$ -	\$ 1,924,127	
20 STATIONS, TERMINALS, INTERMODAL	\$ -	\$ -	\$ -	\$ 52,783	\$ 127,472	\$ 150,781	\$ 39,015	\$ -	\$ -	\$ 370,051	
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN, BLDGS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS	\$ -	\$ 91,469	\$ 128,289	\$ 11,896	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 231,653	
50 COMMUNICATIONS & SIGNALING	\$ -	\$ -	\$ -	\$ -	\$ 56,073	\$ 92,857	\$ 84,094	\$ -	\$ -	\$ 233,024	
60 ELECTRIC TRACTION	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
70 VEHICLES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
80 PROFESSIONAL SERVICES (applies to Cmts. 10-60)	\$ -	\$ 28,312	\$ 44,664	\$ 61,346	\$ 78,983	\$ 58,174	\$ 35,517	\$ 6,905	\$ -	\$ 312,902	
90 UNALLOCATED CONTINGENCY	\$ -	\$ 20,500	\$ 46,453	\$ 60,099	\$ 59,375	\$ 49,162	\$ -	\$ -	\$ -	\$ 235,588	
100 FINANCE CHARGES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Program Cost (10-100)	\$ -	\$ 320,562	\$ 589,548	\$ 856,545	\$ 718,408	\$ 556,566	\$ 262,812	\$ 6,905	\$ -	\$ 3,311,346	

* For the purpose of this application, base year dollars are considered FY 2011 dollars.

**Year-of-Expenditure(YOE) dollars are inflated Base Year dollars. Applicants must determine their own inflation rate and enter it on the "General Info" tab. Applicants should also explain their proposed inflation assumptions (and methodology, if applicable) in the Application Form.

* As a convenience to applicants in cross-checking their figures, this column shows the "Total Costs" by category in FY 2011 dollars carried over from the "Detailed Capital Cost Budget" sheet.

If not using the FRA-provided formulas, please describe your methodology in the space provided below as well as listing any supporting documentation.

Return to the Main Page

Schedule- Service Development Program

Instructions:

1. In the yellow cells below, enter the anticipated "Start Date" and "End Date" for each high level activity (e.g., Final Design, Construction, Service Ops).
corresponding row in which activity will take place. Enter an 'X' in a cell to shade that cell.
2. Illustrate the anticipated timing and duration of each task item on the chart below. Shade the quarters or months for each corresponding year in which work will take place on a task. Shade all cells in the corresponding row in which activity will take place.
3. Complete this process for all of the tasks, both high-level tasks (e.g., Final Design) and subtasks (e.g., Issue request for bids, make awards of FD contracts).

Service Development Program Name

CA-SF/SANJOSEHSR-DESIGN/BUILD

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Service Development Plan																		
Develop Service Development Plan																		
Develop Service Selection NEPA documentation																		
Receive environmental determination for Service Selection NEPA																		
Submit request / receive FRA approval for Letter of Intent (if applicable)																		
Preliminary Engineering (PE)																		
Issue requests for bids, make awards of PE contracts																		
PE Drawings; and cost estimate, schedule, ridership forecast																		
Develop Project NEPA Document																		
Receive environmental determination for Project NEPA																		
Submit request / receive FRA funding obligation for FD/Construction (if applicable)																		
Final Design (FD)																		
Issue requests for bids, make awards of FD contracts																		
FD Drawings; and cost estimate, schedule refinement																		
Acquisition of real estate, relocation of households and businesses																		
Conduct reviews																		
Issue requests for bids																		
Submit request / receive FRA approval for Construction																		
Construction																		
Make awards of construction contracts																		
Construct infrastructure																		
Finalize real estate acquisitions and relocations																		
Acquire and test vehicles																		
Service Operations - Project/Program Close Date																		
Service Operations																		
Completion of project/program close-out, resolution of claims																		

Attachment 2: Summary of Transportation Benefits of the Redefined ARRA Track 2 grant for the San Francisco-San Jose Section

The San Francisco-San Jose ARRA base project is an integral part of the State-wide HST project to develop a new intercity passenger rail (IPR) service not provided today, with over 200 trains per day in 2035, carrying up to 100 million passengers statewide. Of these, approximately 50 million will be carried in Phase 1. Major benefits for mobility, economic activity, air quality, and land use development will be created, as documented in the 2005 California HST Statewide Program EIS/EIR and the 2008 Bay Area to Central Valley Program EIS/EIR.

In the short term, and in and of themselves, the grants requested will provide an opportunity to speed up and improve safety for the Caltrain Peninsula service and its intercity users even in the event of delay in implementation of the HST services. The project will build track and structure for HST trains, as well as current Caltrain services, allowing faster speeds and more reliable service at speeds up to 110 mph. The project will grade separate most portions of the line, and reduce rail and road exposure to accidents at grade crossings. The project will also install positive train control technology on the line to allow safe and efficient operation.

OPERATIONAL INDEPENDENCE AND UTILITY -- IMPROVED CALTRAIN TRANSPORTATION BENEFITS

Caltrain services running on the project's infrastructure would provide the State's first true 110 mph high-speed intercity rail infrastructure. At the achievable speeds and with these improvements, trains from metro San Francisco to metro San Jose could save several minutes compared to current trip times. As a result of an increase of nine round trips foreseen in the Caltrain improvement plans and forecast growth in the State, riders are anticipated to increase by 2.7 million in the year 2018. The additional improvements from the ARRA base project will generate another 74,000 passengers in the same year. Ridership will grow to 13.8 million passengers by the tenth year of operation, a 38% increase over today. The 2027 services will increase passenger miles by a similar percentage and 72 million passenger miles from today.

Grade separation of the alignment from crossing road traffic is the most important safety improvement to the transportation system growing from this investment. The redefined ARRA grant would pay for the elimination of 39 at-grade crossings in this corridor. That will improve safety for both road users and rail passengers and personnel alike.

The higher speed and reliability and higher frequencies will increase revenues as well as the proportion of operations cost covered by passenger fares to 65% from 52% today.

**SAN FRANCISCO TO SAN JOSE - Revised ARRA Segment
PRO-FORMA SOURCES & USES IN THOUSANDS**

Fiscal Year End*	[Date]	30/Sep/10	30/Sep/11	30/Sep/12	30/Sep/13	30/Sep/14	30/Sep/15	30/Sep/16	30/Sep/17	30/Sep/18	30/Sep/19	30/Sep/20	30/Sep/21	30/Sep/22	30/Sep/23
Periodic Growth in Revenue	[%]														
Federal Grants - Capital Investments	[\$ in '000]	0	0	163,427	298,916	424,195	364,924	270,646	130,023	3,486	0	0	0	0	0
State Grants - Capital Investments	[\$ in '000]	0	0	163,427	298,916	424,195	364,924	270,646	130,023	3,486	0	0	0	0	0
Local Grants - Capital Investments	[\$ in '000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Revenue - revised ARRA segment	[\$ in '000]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	78.5	81.3	84.1	86.9	89.7	92.8
Operating Subsidies - Caltrain & Peninsula Corridor Joint Power Board (PCJPB)	[\$ in '000]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.5	42.9	44.4	45.9	47.4	49.0
Capital Replacement Subsidies- Caltrain & PCJPB	[\$ in '000]	0	0	0	0	0	0	0	0	15,103	15,103	15,103	15,103	15,103	15,103
Total Sources	[\$ in '000]	0.0	0.0	326,853.4	597,831.2	848,389.0	729,847.3	541,292.2	260,045.3	22,196.0	15,227.2	15,231.5	15,235.7	15,240.0	15,244.8
Capital Costs - revised ARRA segment	[\$ in '000]	0	0	(326,853)	(597,831)	(848,389)	(729,847)	(541,292)	(260,045)	(6,973)	0	0	0	0	0
Operating Costs - revised ARRA segment	[\$ in '000]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(120.0)	(124.3)	(128.5)	(132.8)	(137.0)	(141.9)
Capital Replacement Costs - revised ARRA segment	[\$ in '000]	0	0	0	0	0	0	0	0	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)
Total Uses	[\$ in '000]	0.0	0.0	(326,853.4)	(597,831.2)	(848,389.0)	(729,847.3)	(541,292.2)	(260,045.3)	(22,196.0)	(15,227.2)	(15,231.5)	(15,235.7)	(15,240.0)	(15,244.8)
Change in Cash	[\$ in '000]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* All projects that are funded by the ARRA monies will be completed by Federal Fiscal Year 2017. However, based on past experience, it is expected that complete funding of those projects will only occur by the early months of Federal Fiscal Year 2018 once all respective paperwork is completed.

**SAN FRANCISCO TO SAN JOSE - Revised ARRA Segment
PRO-FORMA SOURCES & USES IN THOUSANDS**

Fiscal Year End*	[Date]	30/Sep/24	30/Sep/25	30/Sep/26	30/Sep/27	30/Sep/28	30/Sep/29	30/Sep/30	30/Sep/31	30/Sep/32	30/Sep/33	30/Sep/34	30/Sep/35	30/Sep/36	30/Sep/37
Periodic Growth in Revenue	[%]														
Federal Grants - Capital Investments	[\$ in '000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Grants - Capital Investments	[\$ in '000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Grants - Capital Investments	[\$ in '000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Revenue - revised ARRA segment	[\$ in '000]	96.0	99.2	102.3	105.8	108.9	111.9	115.0	118.0	121.1	124.2	127.3	130.4	133.5	136.5
Operating Subsidies - Caltrain & Peninsula Corridor Joint Power Board (PCJPB)	[\$ in '000]	50.7	52.4	54.0	55.9	57.5	59.1	60.7	62.3	64.0	65.6	67.2	68.8	70.5	72.1
Capital Replacement Subsidies- Caltrain & PCJPB	[\$ in '000]	15,103	15,103	15,103	15,103	15,103	15,103	15,103	15,103	15,103	15,103	15,103	15,103	15,103	15,103
Total Sources	[\$ in '000]	15,249.6	15,254.5	15,259.3	15,264.7	15,269.3	15,274.0	15,278.6	15,283.3	15,288.0	15,292.7	15,297.5	15,302.2	15,306.9	15,311.6
Capital Costs - revised ARRA segment	[\$ in '000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Costs - revised ARRA segment	[\$ in '000]	(146.7)	(151.5)	(156.3)	(161.7)	(166.3)	(171.0)	(175.7)	(180.4)	(185.1)	(189.8)	(194.5)	(199.2)	(203.9)	(208.6)
Capital Replacement Costs - revised ARRA segment	[\$ in '000]	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)	(15,103)
Total Uses	[\$ in '000]	(15,249.6)	(15,254.5)	(15,259.3)	(15,264.7)	(15,269.3)	(15,274.0)	(15,278.6)	(15,283.3)	(15,288.0)	(15,292.7)	(15,297.5)	(15,302.2)	(15,306.9)	(15,311.6)
Change in Cash	[\$ in '000]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* All projects that are funded by the ARRA monies will be completed by Federal Fiscal Year 2017. However, based on past experience, it is expected that complete funding of those projects will only occur by the early months of Federal Fiscal Year 2018 once all respective paperwork is completed.